

MARCH (ALDEN)

Bind this Cover in front

IMPROVED FORCEPS FOR HARE-LIP OPERATION,

AND

FATAL RESULT

OF AN

OPERATION FOR THE REMOVAL OF A TUMOR FROM THE NECK.

✓
BY ALDEN MARCH, M. D.

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REPORTED FOR THE YEAR 1900

THE BOARD OF DIRECTORS OF THE

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IMPROVED FORCEPS FOR HARE-LIP OPERATION.

BY ALDEN MARCH, M. D.

The malformation of the lip, usually called "hare lip," and generally arising from a congenital defect, is so conspicuous, and painfully unpleasant to witness, especially by the parents of a young infant, that early relief is eagerly sought ; and that too, at the hands of almost any one who will undertake to remedy the defect.

The operation is deemed simple, and easy of accomplishment by the young aspirant for surgical fame, and hence he will not be very likely to let slip an opportunity so advantageous to place himself in a prominent light before the public.

A judicious and laudable ambition is not to be condemned ; but rather encouraged, even in the young practitioner, in the more simple and plain parts of operative surgery, where it does not involve an exposed and prominent part of the body.

If a choice of locations were permitted in making our first essay in operative surgery, we should be quite likely to choose almost any other region or part, than that of the face, upon which all expression depends.

Malformation, or deformity of the features, always excites the gaze, if not the remarks of strangers ; and to the unfortunate individual, who happens to be the subject of it, is always a source of chagrin and mortification.

The natural appearance, or anything approaching to it, can only be produced by a delicate and nice surgical operation, and on its more or less perfect success will depend the appearance and expression of the individual for life. Hence the subject is deemed worthy of the profound consideration of the most experienced surgeon.

Within a few years past some important improvements, in the mode of operating for hare lip, as well as in other surgical operations, have been made.

The chief difficulties the new beginner meets in this operation, consist in the mode of excising the borders of the fissure, and in maintaining them in apposition.

If, therefore, any apparatus, or means can be provided by which just enough, and not too much of the border of the fissure can be removed, and of the desirable shape, and with mathematical precision, then indeed, may we flatter ourselves with having accomplished a desideratum in surgical art.

If too much or too little of the rounded edge of the fissure be cut away, the operator will fail, more or less, in making a perfect cure.

Skey says, in his treatise on operative surgery, that "young operators are prone to remove too little." Pirrie, in his system of surgery, in describing the mode of operating for hare lip, says, "the blade is then slightly turned so as to direct the edge a little outwards, and is brought down, cutting off a *thin slice* from the edge of the fissure." I object to the term, "thin slice," since I believe it to be well calculated to lead the new beginner or inexperienced surgeon to entertain the notion, that merely making raw the edges of the fissure, is all that will be required before the application of the sutures.

Such a procedure would be liable to result in a failure of firm union; or if union should take place, in two kinds of deformity—in an artificial *filtrum* or groove extending from the nostril to the lower part of the lip, and in an unsightly notch at the prolabium. On the other hand, it may be cut away so freely as to result in shortening, and consequently tightening the lip to an unpleasant degree.

To obviate, or to prevent the notch that is so apt to follow the old method of operating by straight incisions, two plans have been adopted; one with a semi-circular cut from top to bottom; and the other with straight lines from the top to the upper bor-

der of the red part of the lip, and from thence towards the fissure at an angle of about forty-five degrees, so that a long prolabium is preserved.

Ferguson, in his system of practical surgery, upon this subject remarks: "The semi-circular line has been recently claimed by the surgical authority of the Edinburgh Monthly Journal of Medical Science; and the line, with the angle at the upper part of the prolabium is usually attributed to Malgaigne."

He further remarks, "I have tried both plans frequently, and can bear witness in their favor, as enabling the surgeon, both to do away with the notch above alluded to, as well as to give that length or depth to the upper lip, which is often so deficient. Neither of these lines, however, will be of much avail, unless the margins be freely pared; and in all the operations for hare lip, which I have myself performed, whether single or double, I have never had any reason to regret having cut away too much, but occasionally have wished afterwards, that I had not been so sparing of the margins." The author further adds, "This is mentioned for the sake of the young operator, who may probably suppose, as I myself did, that he will not be able to bring the edges in sufficiently close apposition; on this score, however, he need be in no dread."

The instrument or forceps, I have caused to be constructed, (a drawing of which is herewith presented,) is designed to combine the semicircular line of the Edinburgh surgeon, and the angular line of Malgaigne.

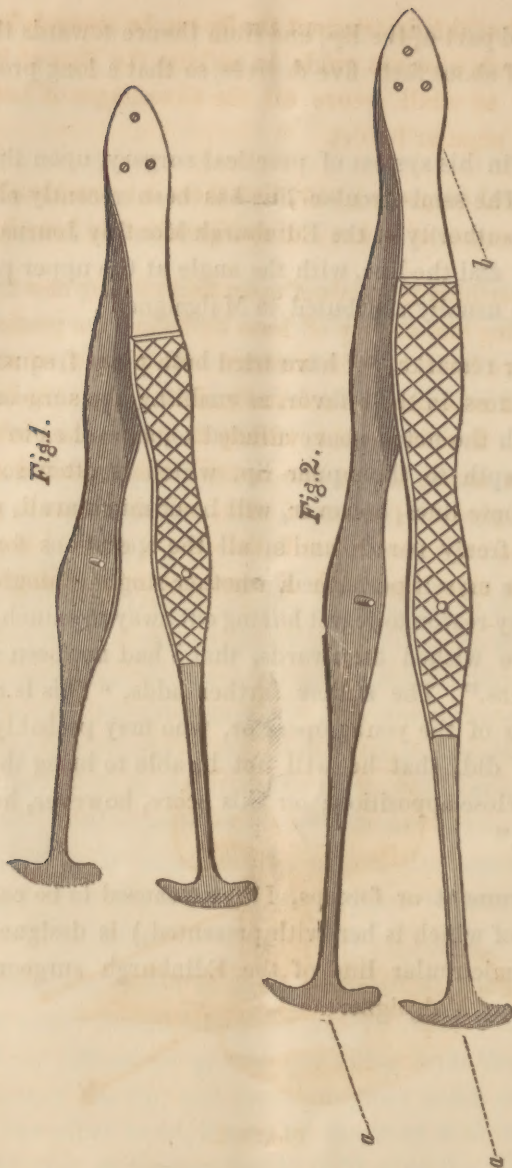


PLATE 1.

The jaws or transverse portion of the forceps are provided with blunt teeth, to make the hold upon the lip secure ; and having a general and pretty regular curve on the outer border of three-fourths of its length, and from that point the line extends towards the handle or vertical part, at an angle of about forty-five degrees, for the remaining one-fourth of the outer border of the jaws.

By the aid of this instrument the lip can be securely held, while its shape affords a secure guide in making the line of incision in such a way as shall secure all the advantages of both a semi-circular and angular border.

All practical surgeons know, that there is a considerable variety of *form* and *degree* of defect, or malformation in hare lip.

Before describing the mode of operating with my new instrument, I wish to bring one variety of hare lip before the profession, that seems to have been, in some measure, overlooked, or at least, the best means of relieving the deformity, do not appear to be properly pointed out. I refer to the variety in which the cleft is single, and extends nearly up to the nostril; being limited above by a thin and depressed portion of skin, which seems to permit the *ala nasi* to be expanded towards the cheek, much beyond that of the opposite side, and with a corresponding enlarged external meatus.



PLATE 2.

And in order to fetch the expanded wing up to its proper position, and to contract the outlet of the nostril to the dimensions of the opposite side, it is necessary that the incisions should be carried quite up into the nasal cavity, and, a portion of this thin skin, of sufficient width, removed; so that, when the cut borders are brought in apposition, the above defects may be obliterated.

Whenever there is a *flattening* or *depression* of one side of the upper jaw, as is not unfrequently the case, after removing the borders of the lip in the way that I shall presently describe, the underside of the upper part of the lip, upon which the *ala* seems to be implanted, may be detached by the scalpel from the jaw bone, by which the upper part of the wound may be readily made to approximate, and can be easily retained by the upper suture.

By this mode of operating we are pretty sure to convert a *flattened triangular* nostril into a rounded or oval one, much more in harmony with that of the opposite side, and with nature. All other varieties of the congenital malformation of the upper lip seem to have been well considered, and the most appropriate means of relief suggested.

It only remains for me to describe the mode of operating with the aid of my newly constructed forceps, and to illustrate the subject, as well as I can, by a few drawings. The drawings are intended to represent the two different sized forceps, of the description already given; the smaller, (Pl. 1, Fig. 1,) being sufficiently large for a child, of from one to four months old—a period between the extremes of which, if I am permitted to elect for myself, I think the most desirable to operate. The larger sized, (Pl. 1, Fig. 2,) will answer for a child five or six years old, or for an adult.

It will hardly be deemed necessary or important to speak of the number, or the duties of assistants. Suffice it to say, that the infant is to be held either in the lap of an assistant, or held securely upon an operating table, while the operator may place himself a little to one side, or in front of the patient; and embrace the left border of the fissure between the blades of the forceps, so that their oblique lower angle shall look towards the opposite free border of the fissure, and taking hold of the full thickness of the lip; the amount, and precise shape of the part to be removed will be indicated by the line of the outer border of the transverse portions of the blades of the forceps.

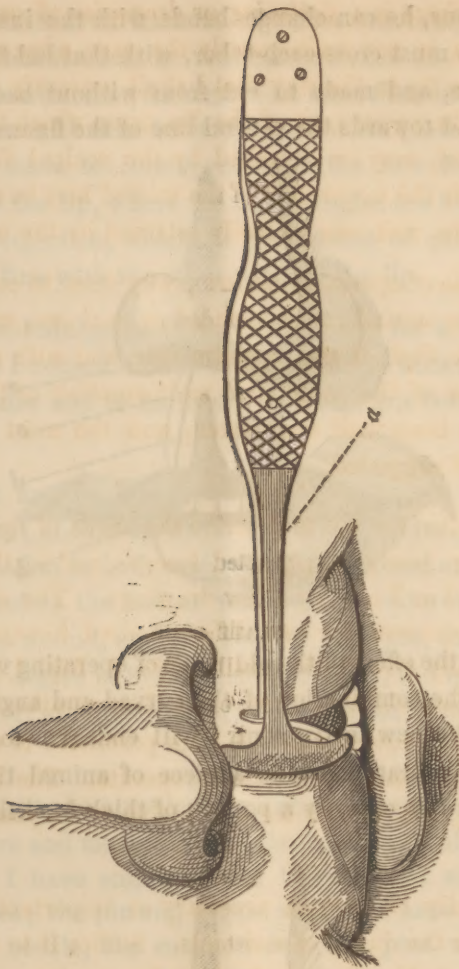


PLATE 3.

When the forceps have been properly placed, as in the accompanying figure, and secured by a suitable amount of pressure, the operator next proceeds to transfix, either from within outwards at the upper angle under the nostril, or from without inwards at the same point, with a narrow sharp pointed bistoury, and to cut, by a sawing motion, downwards and towards the centre of the cleft, taking care to keep the knife close to the outer convex border of the forceps. In this way all of the free rounded border, at the point where the prolábium and rounded fissure run into each other, will be preserved. The opposite side is to be excised in a similar manner. If the operator

be ambidextrous, he can change hands with the instruments—if not, the hands must cross each other, with that holding the knife situated above, and made to cut from without backwards and downwards and towards the central line of the fissure.

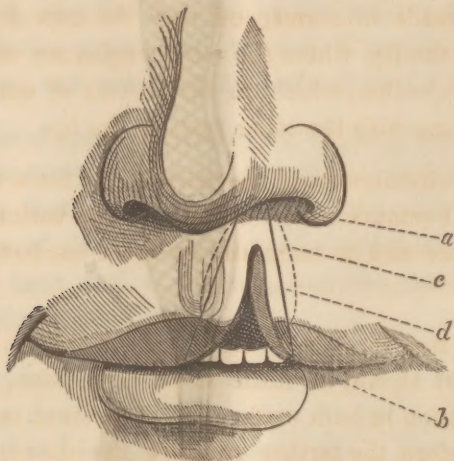


PLATE 4.

To contrast the effect of the old mode of operating with straight, with that of the combination of the curved and angular lines, as proposed by the new instrument, I will endeavor to demonstrate the respective operations upon a piece of animal tissue,—as for instance, as in this case, by a portion of thick buckskin.

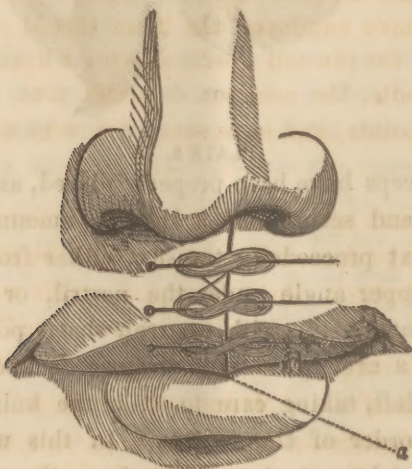


PLATE 5.

It will be observed, in plate 4, letter *a*, the old mode of operating, that an unpleasant notch or narrowed part of the lip is

quite perceptible, even immediately after the completion of the operation ; while it must be remembered that this difficulty increases from contraction, for some time after firm union has taken place. And it will also be noticed, that, in plate 5, when the incisions are made to correspond with the new forceps, on the free border of the lip, where the acute angles are united, there is a moderate projection, which, in the process of cure, is brought on a straight line with the other parts of the lip.

I crave the indulgence of the society but for a few moments longer, while I remark briefly on some of the various means employed to secure and to maintain the fresh cut borders in apposition.

I believe it may be laid down as a fixed principle, that every necessary effort should be made to prevent undue, incited or inflammatory action in both surfaces of the wound and around the sutures ; therefore the farther removed the sutures are from the surface of the wound, and the smaller they are, consistent with the necessary degree of firmness and strength, the less likely will they be to exert an unfavorable influence upon a speedy and firm union.

It is thought to be a matter of no small importance to select the kind of suture and material best calculated to fulfil their intended designs. I have employed the linen thread and silk interrupted sutures ; the pin and needle suture ; I have used the common sewing needle, the common domestic pins, and the silver pins with steel points, and have succeeded very well with all of them.

Some thirty years ago, when the late Sir Astley Cooper was in the zenith of his professional glory, or about the time he published his surgical lectures, the interrupted suture was quite extensively employed in England and in America ; and on the authority of one whose surgical law seemed almost as binding and as unalterable as that of the " Medes and Persians." Scarcely any one, except the continental surgeons, dared to oppose the surgical authority of Sir A. Cooper, nor hardly to think or act upon the convictions of their own observations and experience. And yet, in a few short years after the setting of the sun of the great Eng-

lish surgical luminary, so long ago as 1848, I witnessed the hare-lip operation performed in one of the London hospitals, by the late Mr. Ashton Key, one of the cleverest operators of his day, when I found he had abandoned the interrupted suture, and had adopted the French hare-lip pins. From that time to the present, I have mostly employed metallic sutures in the operation for hare-lip.

I believe that small sewing-needles, having their heads well enlarged with sealing wax, by which they can be held securely between the thumb and fingers; and small common domestic pins, (if they can be found long enough) or what is better, perhaps, entomology or insect pins, will answer all the purposes of those made for the express purpose.

The entrance of the pin should be about three-eighths of an inch from the cut border, and extend nearly or quite through the full thickness of the lip, and be made to enter on the opposite side as deep, and to have an exit at the same distance on the further side of the wound.

In operating on children, Malgaigne passes the needles through the whole thickness of the lips, by which perfect apposition is just as easily effected, and at the same time the wound is relieved from the irritation of the needle or pins, (if there is any apprehension of such an effect,) and the secretions of the mouth, and the food thoroughly excluded from the wound.

I have spoken of the use of the common sharp pointed slender sewing needle as being well calculated to answer all the purposes of gold or silver pins. And as those who have not seen the experiment tried might be fearful of their tendency to become corroded and roughened by the moisture of the part, and consequently produce inflammation around them, I will briefly state the result of my observation and experience in their use.

The first operation for hare-lip I ever witnessed was at least thirty six years ago, and in that the common "chapel sharp" needles were used, and with perfect success. And I commenced my career in the operative art of surgery with the operation for

hare-lip, now nearly thirty-five years since, and for maintaining the cut edges in apposition I employed common sewing needles; and I have repeatedly used them since with good success.

To show that highly polished steel will not readily induce inflammation when piercing or occupying different tissues of the human system, I will state that I have the apparatus of Malgaigne, which he used in the treatment of oblique fractures of the tibia, when there is a disposition in the lower extremity of the upper fragment to overlap and to "rise up," so as to press against the under surface of the skin. The means employed by Malgaigne to bring the refractory point of bone down to its proper place, and without making pressure on the integument over the bone, consisted in a yoke of an elastic steel plate of nearly half of a large circle, to which is attached a belt or strap, which is made to embrace the bed piece and side pieces upon which the limb is placed; and of a kind of bodkin, sharp pointed screw, of three-sixteenths of an inch in diameter in the screw part, and the pointed part half an inch in length. A long fenestrum is situated in the centre of the yoke, and by a sliding block or female screw, into which the pin or peg screw is fixed, it may be made to rest on the inner face of either tibia. After the apparatus is properly adjusted, and the broken bones placed in apposition by extension, counter-extension and coaptation, the sharp point of the bodkin screw is made to penetrate the skin, and to pierce the bone about an inch above the point of the overriding fragment. A few turns of the screw by the thumb piece with which it is provided at the top, it is made to enter the bone nearly the eighth of an inch. The puncture in the surface of the skin is about the sixteenth of an inch in diameter.

I have thrust this instrument through the skin, cellular tissue, periosteum, and into the bone, as above described, and allowed it to remain in contact with all of the above tissues for three weeks, without producing suppuration, or even the least appearance of inflammation. It is thought that these facts will prove pretty conclusively that no fears need be entertained of any bad consequences arising from the use of steel needles in the operation for hare-lip.

If the instrument I now submit to the medical public for trial should prove useful, and the suggestions I have offered upon the best mode of removing a particular form of deformity of hare lip should contribute to advance the science of surgery, and to mitigate the misfortunes of humanity, I shall ever feel grateful for your kind indulgence in favoring me with this opportunity of presenting the subject for your consideration.

Fatal result of an operation for the removal of a tumor from the neck.

It becomes my unpleasant duty, in justice to myself and the medical profession, to give a brief account of the circumstances connected with the operation, some time since performed in the Albany city hospital, for the removal of a tumor from the neck of a young lady.

There seems to be the more necessity for this step, since a garbled and inaccurate account of the operation and cause of death, found its way into the newspapers of the day, from which it is to be presumed that the editors of medical journals have obtained an erroneous notion as to the cause of the death of the patient, and especially as several of them have solicited a full professional description of it from the operator.

The mental anxiety, and weighty responsibility suddenly thrown upon me, and in one of the most trying positions in which a man could be placed, were quite enough to endure, even though supported by the aid and sympathies of my professional brethren who assisted me in the operation, and who were indefatigable in their efforts to ward off the fatal result.

It is intimated in two or three of the medical journals of this part of the country, that they had received letters for publication criticising and animadverting upon the operator, in a way that was calculated to injure his professional reputation. In each and all of the contributions thus offered, the editors have declined their publication. For this honorable and high-minded course, I feel under many obligations.

I do not desire to harbor the thought, that any honorable member of the profession would willingly and intentionally do me a professional injury ; and when the facts of the case are fully understood, I trust they will be viewed in a more favorable light than that in which it seems they appeared to the mind of the critics.

It is believed that all will concur in the remark of the editor of a medical journal, upon this subject, in answer to his querist, that " it is much easier to say, *now*, what we would have done, than it was when Dr. March and his associates decided upon the operation, after all due deliberation."

Miss Sarah Weaver, aged 18, of Gallopville, Schoharie county, N. Y., was brought to me about the middle of December, 1854, having upon the left side of her neck what appeared to be a glandular tumor, of enormous size, extending from behind the middle of the back part of the ear, to the clavicle near the sternum, and projecting laterally or outwardly a little above its middle, five or six inches.

The tumor was first discovered in February, 1854, and its growth had been regularly and steadily advancing till within six or eight weeks of the time she visited our city, when its development was unusually rapid, being twice as large as it was two months previous.

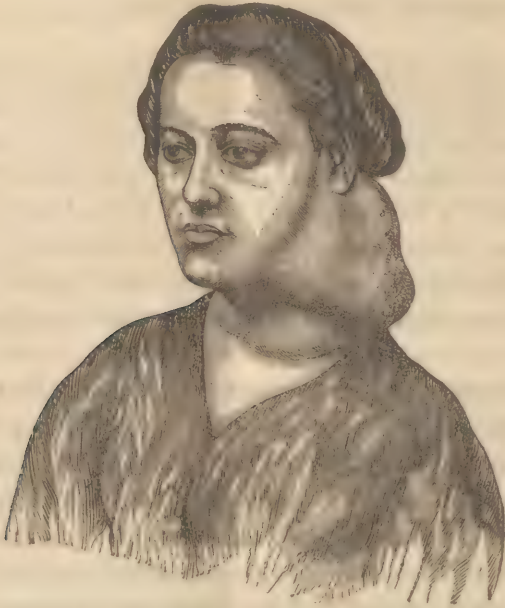
I believe an irregular practitioner had made an attempt either to scatter or destroy it, by plasters or caustics, as there appeared to be a cicatrix, and a red patch, of about two inches in diameter, at its most pointed part, as can be seen in the crystalbottle, caused by the medication, as I was informed. A consultation was held, and the case carefully examined by Professor James McNaughton and Professor James H. Armsby, both of whom having been public teachers of anatomy for more than twenty years, and both practical, conservative and experienced surgeons. It is hardly necessary to say, for the information of the medical profession in this part of the country, that Dr. Armsby is the present professor of anatomy in the Albany Medical College, and that he has been my most reliable assistant, in most of my important and critical surgical operations, for the last quarter of a century.

I will leave it for those who are familiar with my professional career, and best know the opportunities I have enjoyed for acquiring a thorough and practical knowledge of anatomy, for near thirty-five years, to decide of my competency and skill as it regards surgical and pathological anatomy.

We examined the tumor carefully, and, from its apparently superficial situation, circumscribed form, movable character, and general freedom from adhesion to the skin, and from the fact that no other means seemed to afford the least prospect of ridding the young lady of a hideous deformity, and of prolonging her life, it was deemed prudent to advise and to undertake the operation. All the counsellors were unanimous in this opinion and recommendation, to which the patient and her friends readily consented.

For the better accommodation of the patient and the surgeons, she was advised to enter the hospital; and after a few days of preparation, she was taken to the operating theatre on the 21st of December, at about twenty minutes past 12 o'clock, M. At her request and earnest solicitation, she was put under the influence of ether and chloroform. Sulphuric ether was used for ten or twelve minutes, and when it was found not to produce the desired effect in making her insensible, about half a drachm of pure chloroform, obtained directly from Paris, by Professor Townsend, and which had been tested, on several other occasions, when its effects were pleasant, and all that could be desired, was then employed. After waiting a few minutes, another half drachm, as near as we could judge, was added to the sponge, and in a few minutes more anesthesia was produced. The operation commenced twenty-two minutes before 1 o'clock P. M., by making two semi-elliptical incisions, from the top to the bottom of the tumor, and the flaps of healthy skin on the front and rear, reflected cautiously, while the hands of an assistant were employed to compress the superficial veins (anterior and posterior jugular) as they descend towards the chest. In the dissection it was found that the sterno-cleido-mastoideus muscle was so expanded and imbedded in the tumor that its sacrifice was unavoidable. Towards the lower end of the tumor it was crossed by the omo-hyoi-

deus (as seen in the engraving), while towards the mesial line it passed under the sterno-hyoideus and sterno-thyroideus to the trachea.



After the external surface of the tumor was fully exposed, much of its base was detached from its connections beneath, with the fingers, by which important blood-vessels and nerves were sought to be avoided.

In prosecuting this part of the dissection it was found impossible to remove the tumor without implicating important arteries and veins.

The common carotid artery was involved in the tumor, and the trunk of the internal jugular vein passed through its substance, at its lower and back part, from one and a half to two inches, and by a projecting lobe, widely separated from the artery. The common carotid artery was secured by a ligature, an inch and a half above the sternum, before it was divided, and firm pressure made on the veins. A ligature was also applied to the internal

carotid, after which the tumor was detached from above, while pressure was still kept up on the large veins as they enter the chest.

The operation was suspended twice, for a few minutes at a time, to recruit the patient with stimulants, and completed by the removal of the tumor in less than half an hour from the commencement of the first incision. The quantity of blood lost was less than usual in an operation of such magnitude.

On examining the tumor after removal, it presented all the physical characters of encephaloid disease. In some parts it was soft, and pulpy or brain-like in consistence; at other points it was of the consistence of a healthy lymphatic gland.

Notwithstanding every effort was made to save the patient, still the waning powers of life seemed to vibrate between hope and despair for near two hours, when she breathed her last, without a struggle, or even the distortion of a muscle of her face.

Those who were the immediate actors in the tragic scene believed that death resulted from three causes—*loss of blood, shock to the system, and PROBABLY the introduction of air into the venous circulation.*

The symptoms in this case did not at all correspond with the phenomena of a case it was my misfortune some twenty-five years since or more to witness, where it was fully settled and well known that the patient died from the introduction of air into the jugular vein. By some, it has been thought that the ether destroyed life; and by others, that it was the chloroform. As to the former, I can say positively that the patient was not in the least rendered insensible by its use. All I can say with regard to the latter is, that its effects did not appear to be those of asphyxia.

I insert here the following statement made by Professor McNaughton:

“I have carefully read over Dr. March’s account of the operation on Miss Weaver, and of the several circumstances connected with it, and the statement, so far as I can recollect, is accurate.

“At Professor March’s request, I administered the ether and the small quantity of chloroform used on that occasion. I have no

hesitation in saying that both were used with great caution ; that the smallest quantity adequate to keep the patient quiet enough to proceed with the operation was employed, and that the anæsthetic was intermitted from time to time, when it could be done, during the operation.

“The only way in which I can account for the fact that the impression has got abroad that the fatal event was caused either by ether or chloroform, is that during the operation, while the patient was faint, ammonia (on a sponge) was held to the patient’s nostrils, and from time to time, after the operation was completed. Some of the spectators may have imagined that the sponge was charged all the time with the anæsthetic agent. Such was not the case. Sulphuric ether was chiefly relied on, as is stated by Professor March, and that cautiously, and for a period not exceeding half an hour.

“While I regret the result of the operation, which I knew to be one of great hazard, I acknowledge that I concurred, in view of all the circumstances of the case, in the propriety of attempting the removal of the tumor.

“JAMES McNAUGHTON.”

After reading the description of the tumor, and after exhibiting the crystalbottle of Miss Weaver, Dr. James Diefendorf, of Fort Plain, a member of the society, and who was present, immediately informed me that a similar case had recently fallen under his observation, that the patient died not long since, and that he was then in possession of the tumor, which was removed from the neck of the patient after death.

The doctor offered to present the pathological specimen to me, which I readily accepted ; and at the same time requested him to give me a history of the case, post-mortem appearances, &c. The tumor was forwarded to me promptly, and a letter accompanying the same, from which I have the liberty to make the following extracts :

“The subject of the tumor was Mr. J. S——, 79 years of age a very worthy and hard-working farmer by occupation, and who

had always enjoyed good health up to the date of the commencement of the development of the tumor, which destroyed his life. He called on me about the 1st of September, with a tumor on the side of his neck about the size of a hen's egg, very firm and hard. The first he discovered of it was about the 1st of June last (1854). It increased rapidly without any pain only from the tension of the skin and pressure of the surrounding parts, with the exception of only occasional darts of pain."

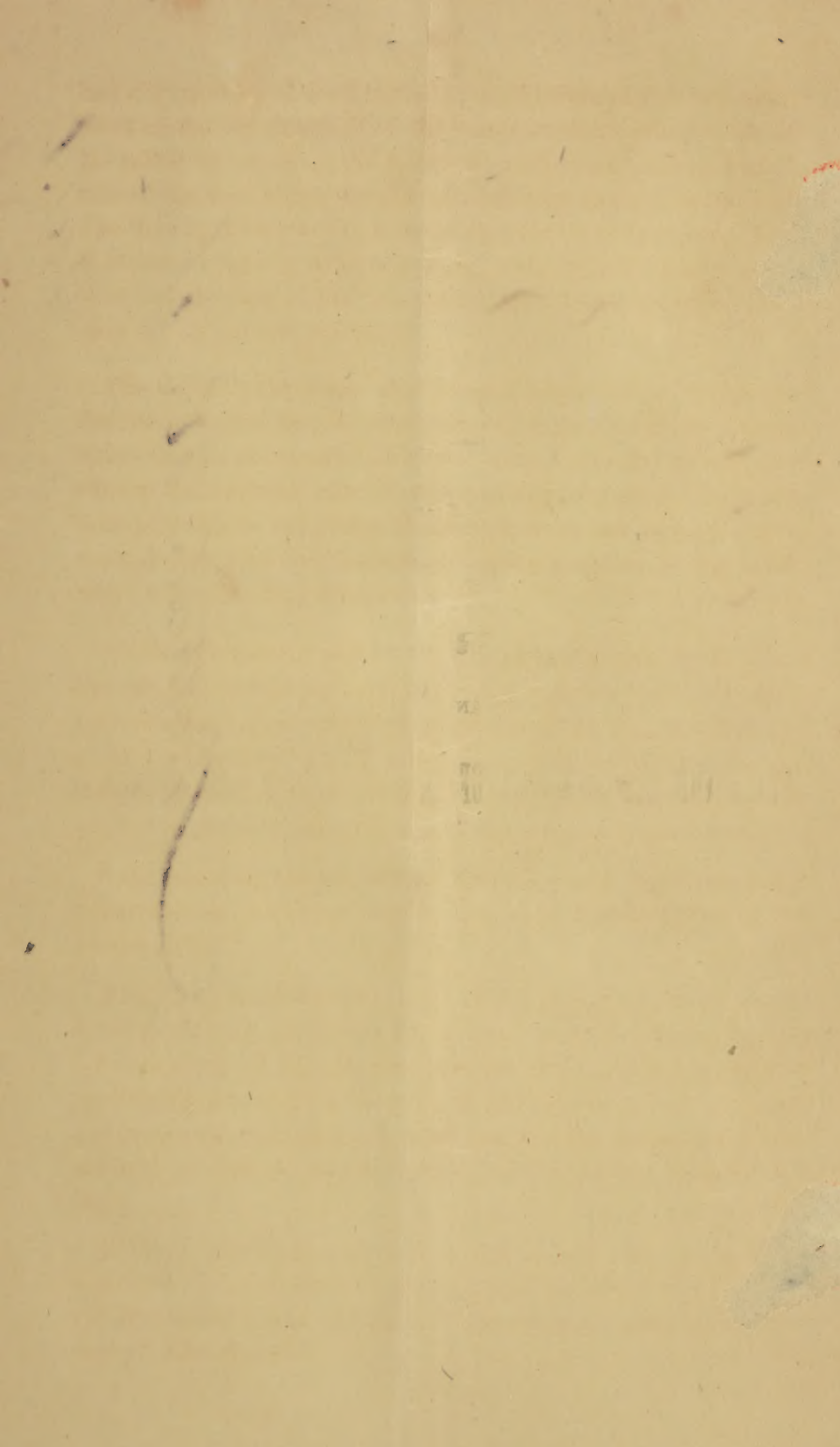
The doctor next states that he was solicited to take charge of the patient—that he pronounced it a malignant tumor, and incurable—that he recommended him to consult Dr. Menzo White, of Cherry Valley; and after speaking of the treatment, Dr. Diefendorf proceeds to say, "that the tumor increased rapidly and remained very firm until about two weeks previous to his death, when it became somewhat softer."

"The enlargement was on the side of the neck directly under the ear, and presenting very much the appearance of the plate (crystalotype) you exhibited to the society; and so rapid and great was its growth that it was with much difficulty we prevented it from pressing against the *trachea*, compelling us to apply compresses to prevent suffocation from the pressure it produced.

"On removing the tumor after death I found the skin closely adherent to it; and surrounding it a close contamination of the parts existed."

I found on careful examination of the specimen that it was of a soft medullary character; and that the *carotid artery* and *jugular vein* occupied almost precisely the same position as in the specimen removed from the neck of Miss Weaver, both of which are preserved, and in good condition for the inspection of the medical profession, at the museum of the Albany Medical College.

If there was a close analogy in the *origin, situation, development* and *nature* of the two tumors, then we think the result of Dr. Diefendorf's case will go far to sustain our prognosis in the case of Miss Weaver.



C. P. 1. 3 over to me

~



Arthur R. Smith M.D.

Baltimore
Md